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Sent: March 10, 2016 2:23 PM

To: Pacific Northwest LNG / GNL Pacific Northwest (CEAA/ACEE); WormAlert@alert.com

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HOC

Subject: All about Fracked LNG.

March 10, 2016

1:42 PM

Dear Friends: Pacific Northwest LNG Facility on Lelu Island and Flora Banks:

- **All about Fracked LNG.**
My thoughts for your considerations. And a few reports on the many, in the history of this LNG, that has occurred and the people affected by it. Do unto others. No to fracking!
- The report states that the project would have “irreversible” impacts on the climate, as it would add at least 11 million tonnes of carbon dioxide equivalent to the atmosphere every year. Environment and Climate Change Canada advised that the Project would be amongst the largest single point sources of greenhouse gas emissions in the country, ranked third among emitters in the oil and gas sector (p.36, CEAA draft).
- The project is proposed on top of the most important wild salmon habitat in the entire Skeena river estuary. Dr. Jonathan Moore (Simon Fraser University) and the Skeena Fisheries Commission found in 2015 that 20 times more juvenile salmon rely on the Flora Bank eelgrass habitat than any other eelgrass area in the Skeena estuary. A location that poses more risks to Skeena salmon has not been found. Despite this, the CEAA draft report is incredibly superficial in its discussion of risks to salmon, giving only 4 pages to the agency's analysis and conclusions of the risks to marine fish (p. 64, CEAA draft).
- Baseline data gaps and scientific inaccuracies still exist in the draft report, despite the extended CEAA process. For example, the report states that “marine habitats around Lelu Island are representative of marine ecosystems throughout the north coast of B.C.” (p. 27, CEAA draft). In reality, science has repeatedly found since the 1970s that the Flora Bank eelgrass area is NOT representative of other areas in the greater Skeena River estuary, but is critical and rare fish habitat, especially for juvenile wild salmon. Risks of the LNG project cannot even start to be assessed without reliable baseline data.
- The Lelu Island site was chosen from 5 potential project sites almost exclusively on economic and technical grounds, with no consideration for the fact that the project is on top of extremely sensitive fish habitat (p.17, CEAA draft). The site selection process, within the current CEAA 2012 legislation introduced by Harper, does not require consideration of

proximity of the project to important or endangered habitats. This is a major CEAA policy flaw.

- The report does not adequately consider the multiple risks to salmon, nor their cumulative effects. Independent scientists have identified multiple risk pathways to salmon that have not been adequately evaluated, such as: dredging of contaminated sediments, blasting, light and high frequency noise pollution, accidental spills, removal of terrestrial salmon food sources from Lelu Island, pipeline dredging, and erosion of Flora Bank. Fisheries and Oceans Canada (DFO) conducted a detailed expert review of only one risk to salmon - erosion - while no such expert review was done for other risks, or for their cumulative effects.
- The report does not consider the peer-reviewed science by Dr. Patrick McLaren, published in the Journal of Coastal Research, which concludes that building the LNG facility could cause significant erosion of Flora Bank and damage to the vital salmon habitat. In DFO's expert review of potential erosion effects, Dr. McLaren's published research is not referenced, analyzed or mentioned. This is a basic scientific error.
- The Lax Kw'alaams First Nation already voted 100% against this project in May, despite an offer of \$1.4 billion from Petronas.
- The Lelu Island Declaration was signed by First Nations leaders from across the Skeena watershed, as well as Grand Chief Stewart Philip of the Union of BC Indian Chiefs, MLAs Jennifer Rice, Doug Donaldson, and Robin Austin, and MP Nathan Cullen, to protect the proposed site – and its salmon – from LNG development.
- Lelu Island has been occupied by Lax Kw'alaams members since August 2015, who have been working to prevent further work on the rejected project.
- Madii Lii territory, which the fracked gas pipeline would pass through on the way to Lelu, has been closed to pipeline development by Luutkudziwus people since Aug. 2014.
- Over 100 first nation leaders, scientists, fisherman, and organizations across the province signed a letter from Lax Kw'alaams Hereditary Chief Yahaan to Trudeau requesting the project be rejected.
- The Haida Nation passed a resolution banning LNG tankers in their waters in Nov. 2015. The tankers from this project would use this area.

I would like to think the collective should have their say and that the truth of these matters comes to light through education and voting on issues regarding the environmental health as well as public health. We are what we eat and drink. Same with the salmon of this land. Down in the Skeena estuary, and the natural environment needs to allow survival with little disturbance anywhere. How much can we do to promote sane, fair, environmental decisions

When it seems that I read that Transcanada pipelines is thought to have been paying for assessments to approve pipelines in the U.S. It is disturbing to hear these problems, that they have the problem. It is suggested that Transcanada engineers and designs are outsourced to off load safety to other parties for profits. Quality control, particularly of welding, and inspections concern me due to the leakage of natural gas and its history. I looked at Natural Gas Watch to see the daily reports of that industry. Pipelines leak all over the world. Trees fall and one tree caused leaks last year in Alberta on the sour gas line.

Pipelines get old and abandoned. We, taxpayers, will get to clean up old infrastructure leaking methane (50 out of 100 well do leak after 50 years). Southern frackers wildcats are going bankrupt after the fact of polluting water systems.

My first recollections of LNG history was reviewed about gas tankers and harbours

http://timrileylaw.com/LNG_Safety.htm and it was important that I should write to you .

Safety in harbours, safety on pipelines near people.

Fishing and fisherman that are affected by LNG tankers restrictions in and out and closure of harbours.

Lelu Island site and LNG flaring and LNG flammability affecting environment in Port Edward and the possible danger. Concerning is the use of seawater and chlorines and the water temperature sciences for Port Edward and Prince Rupert

Just have to mention that companies are often making additions, modifications in the same right-of-way. Gas pipelines to oil in the pipeline. Things like more pumps, more compressors in the neighborhood. And then can turn around to sell it to another company. I have found useful information on the website www.boldnebraska.org to learn about pipelines business with Transcanada. They are having difficulties in South Texas with the integrity of pipeline, they take off topsoil on the farm, and have to dig up some pipelines because of problems they encountered with the pipeline, leaving the topsoil disturbed, unfortunately mixed up. What if there is a problem. If there is only funds for pipeline cleanups amounting to a billion, what if the coast has a disaster situation? Tankers on the North coast is something to consider that it is not all fair weather sailing on the Pacific North Coast.

Do you think the Canadian Coast Guard would be able to deal with issues of tugboats that break away during storms and earthquakes. It sounds like double hulls can get damaged.

For example BP oil spill in US Gulf reported \$3 billion to reports of up to \$42 billion with settlements and cleanup. Settlements with LNG are a reality. Even the ferryboats have crashed a couple of times

Did you know we have had an earthquake history in the Kispiox Valley too? Last earthquake was New Years and a lot of people from the coast to the Rocky's reported it. In Old Hazelton they were frantic when the buildings were all shaking. A few years back they had an earthquake in Prince George, and in my canning cellar my shelves fell down. And my root cellar has all but caved in after many years.

And I would think we should be expecting, to manage and to prevent dangers, particularly take some action when the companies do not.

So the information is being passed around when they do not. For instance, I have read reports about these topics from various websites such as: www.greenforall.org, www.earthjustice.org, www.foodandwaterwatch.org, also, more history about pipeline safety and its effects on the environment and people:

www.EcoWatch.comhttp://projects.propublica.org/pipelines/?fb_action_ids=4265658178220&fb_action_types=og.likes&fb_source=timeline_og&action_object_map=%7B%224265658178220%22%3A224969840967333%7D&action_type_map=%7B%224265658178220%22%3A%22og.likes%22%7D&action_ref_map=%5B%5D There is information on www.gaslandthemovie.com and more on www.unitedforaction.org.

When the public all over the world is making their plea to fracking on the food and water, our environment. Would it be possible to speculate global warming can cause worsening fires i be heard about the cost of n Colorado, evaporation, they use so much water for fracking there. The large Canadian Lakes evaporate and dump rain on the east Rocky's. I see winter can be so different in amounts of constant snow in the Kispiox Valley some years. Could it be the result of evaporation and winds are carrying in unusual amounts of moisture up the Skeena. 2 years ago was deep amounts of snow. Fracking is a contributor to this environmental imbalance. And the coverups, shuffling responsibility, the bribes are hard to bear. The limit is here now to awaken our senses to the global situation, like Al Gore has told us. Like how the methane vs carbon balances to impact us. The energy levels in EROEI energy return on energy invested indicate the things we can do to make our future better.

There is opposition regarding the proposed construction of natural gas pipelines between northeastern BC and the Pacific coast. Several of these pipelines are proposed to cross the Kispiox Valley as part of routes that would traverse large, relatively undisturbed sections of northern BC.

These are some of the principal reasons:

- The construction and presence of pipelines and accompanying roads would fragment an area that is considered to be a globally significant wilderness. Salmon habitat, from headwaters to estuaries would be put at risk. (1.
- The province of BC has no sustainable, long-term plan with regard to the natural gas export industry. (2. The recent “omnibus” bills of the federal government have promoted the present free-for-all in the natural gas industry, by removing many environmental requirements and “streamlining” the approval processes. (3.
- Natural gas pipelines can be converted to use for transporting oil, without additional environmental review. (4.
- Fracking (drilling for natural gas) is accompanied by a plethora of negative environmental impacts, including: depletion and poisoning of aquifers; vast releases of greenhouse gases; the creation of toxic wastewater; triggering of earthquakes; and the destruction of boreal forest and lands used traditionally by First Nations. (5.
- BC Hydro cannot provide the electricity that will be required to power the refrigeration plants that would be built at the proposed export terminals on the Pacific coast (6., yet the

provincial government is approving projects anyway.

- When all aspects of its drilling, transmission, refrigeration, and export are considered, natural gas is not a “green” source of energy. Studies indicate that natural gas produces significantly more carbon emissions than does the mining, transportation, and combustion of coal – the “dirty” fuel that natural gas is touted to replace.
 - According to Environment Canada, the natural gas industry is already the single largest industrial source of greenhouse gas emissions in BC. (8. The BC government has exempted the industry from reporting the greenhouse gas emissions from new projects, admitting that if they were included, the province would not be able to meet its legally mandated target for greenhouse gas emissions by 2020. (9. While school boards, municipalities, and small businesses grapple with the Carbon Tax and the implications of BC’s greenhouse gas policy, big industry is being given a free pass, with grave implications for the health of the planet.
 - Local economic returns from pipeline construction would be minimal. There would be short-term construction, supply, and transportation jobs. Once built, the pipelines would be monitored remotely, with site access by helicopter. The BC government estimates a permanent job total of 800, mostly at export terminals. (10.
 - The principal market for natural gas export is the Peoples Republic of China. (11. This communist country owns some of the key companies in the development of natural gas leases in northeastern BC. (12. Economics is being given priority over human rights and freedoms, a sentiment that is not popular with the majority of Canadians.
 - The potential cumulative impacts of multiple natural gas pipeline routes and export terminals are not being considered under the BC Environmental Assessment Act. (13.
- We urge all communities and First Nations in northern BC to give thought to these concerns and to weigh the proposed benefits versus the risks to the environment, traditional lifestyles, and the local, salmon-based economy.

If the links do not work, copy and paste them into your browser. If the links expire, (some newspapers take them down after a few

weeks), you can usually do a Google search using the article title and find it at another site.

1. Rabnett, Ken et al. Skeena Estuary LNG Development. Terrace: SkeenaWild.org, 2013. See also this submission to the Canadian

Environmental Assessment Agency:

<http://oceanecology.ca/Advocacy/Comment%20in%20Response%20to%20the%20Skeena%20Estuary%20LNG%20Development.htm>

2. Hughes, Dave and Ben Parfitt. Depleting Natural Gas Reserves Makes No Sense for British Columbia. Vancouver Sun, November 14, 2012.

The BC government's official "strategy" reveals a "commitment to exports" with no focus on sustainability:

<http://www.newsroom.gov.bc.ca/2012/02/natural-gas-fuelling-new-economic-opportunities.html>

3. Scoffield, Heather. Pipeline Industry Pushed Environmental Changes Made in Omnibus Bill, Documents Show. Globe and Mail, February 20,

2013.

<http://www.theglobeandmail.com/news/politics/pipeline-industry-pushed-environmental-changes-made-in-omnibus-bill/documents->

[show/article8894850/](http://www.theglobeandmail.com/news/politics/pipeline-industry-pushed-environmental-changes-made-in-omnibus-bill/documents-show/article8894850/)

4. For an example of this, see: Waterman, James. Trans Canada Could Convert Gas Pipelines to Oil to Service Eastern Canada. Pipeline News,

September 5, 2012.

<http://www.pipelinenewsnorth.ca/article/20120905/PIPELINE0118/309059966/-1/pipeline/transcanada-couldconvert->

[gas-pipelines-to-oil-service-to-eastern](http://www.pipelinenewsnorth.ca/article/20120905/PIPELINE0118/309059966/-1/pipeline/transcanada-couldconvert-gas-pipelines-to-oil-service-to-eastern)

5. Parfitt, Ben. Fracking Up Our Water, Hydro Power and Climate. Vancouver: Canadian Centre for Policy Alternatives, 2011. See also: De

Souza, Mike. Environment Canada Asks Industry to Come Clean on Hydraulic Fracking. Ottawa Citizen, April 11, 2013.

<http://www.ottawacitizen.com/technology/environment/Environment+Canada+asks+industry+come+clean/8228375/story.html>

and [http://thecanadian.org/hot-links/item/2020-frackers-losing-\\$15-billion-and-tonnes-of-greenhouse-gases-to-leaks](http://thecanadian.org/hot-links/item/2020-frackers-losing-$15-billion-and-tonnes-of-greenhouse-gases-to-leaks)

6. Lewis, Jeff. BC's LNG Bet Depends on Power Demands. Financial Post, February 25, 2013.

<http://business.financialpost.com/2013/02/25/b-c-s-lng-bet-depends-on-power-demands/>

7. Parfitt, Ben. Fracking Up Our Water, Hydro Power and Climate; pp 20-23. Vancouver: Canadian Centre for Policy Alternatives, 2011.

Available for download at: <http://www.policyalternatives.ca/publications/reports/energy-policy>

8. Environment Canada website: <http://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=040E378D-1>
Spectra Energy's Fort Nelson and

Pine River gas plants are the two largest industrial greenhouse gas emitters in the province.

9. Hunter, Justine. BC to Let Natural Gas Producers Choose How to Power Their Plants. Globe and Mail, November 15, 2012.

<http://www.theglobeandmail.com/news/british-columbia/bc-to-let-natural-gas-producers-choose-how-to-power-theirplants/>

article5323751/ For the legislated greenhouse gas targets, see:

http://www.leg.bc.ca/38th3rd/1st_read/gov44-1.htm#section2

10. Press release by the BC government, February 3, 2012:

<http://www.newsroom.gov.bc.ca/2012/02/natural-gas-fuelling-new-economic-opportunities.html>

11. Ibid.

12. For a synopsis of Chinese investment in Canadian oil and gas industries, see:

<http://www.cnn.com/id/100291704>

13. For a discussion, see: http://www.ecojustice.ca/files/ceaa-background-1/at_download/file

See also:

<http://www.osler.com/NewsResources/BC-and-Canada-sign-MOU-substitution-environmental-assessments/> See also:

http://www.eao.gov.bc.ca/pdf/EAO_CEAA_Substitution_MOU.pdf

As a citizen of northwestern BC, I am greatly concerned that natural gas (NG) and liquid natural gas (LNG) development is being proposed for the region, without any consultation of the local populace. Concerned citizens are now being asked to comment, in separate environmental assessment processes, on proposed natural gas pipelines and on proposed LNG terminals. How can the Canadian Environmental Assessment Office have begun evaluating proposals when there has been no mandate from the people who live here, that the proposals should proceed?

I have concerns with:

- The intent and lack of consultation inherent in British Columbia's Natural Gas Strategy;
- The number of proposed natural gas pipelines through northwestern BC to the North Coast, and the duplication of proposed routes through extensive wilderness areas;
- The proposed construction of LNG terminals on the North Coast.

British Columbia's (Lack of a) Natural Gas "Strategy"

The BC government released British Columbia's Natural Gas Strategy in February 2012, with a focus on developing the LNG sector. Currently, northwestern BC has an economy that is considered stable. It is based upon sustaining a quality of life that may not be fully understood by those who live in urban areas. This quality includes the protection of fish, wildlife, forests, watercourses, air-quality, and aboriginal cultures. It places an intangible value on wilderness.

Climate change has, and continues, to impact the people and the landscapes of northwestern BC. They will not allow natural gas pipelines and LNG plant development to move ahead because you say it will. It is time for the BC government to listen, as opposed to dictating how our future will unfold. It is time for the BC government to become fully and respectfully engaged with communities and with First Nations in northwestern BC on this issue. Your government is entertaining proposals for six natural gas pipelines that would cross northwestern BC, and four LNG plants that would be built on the North Coast. All this proposed development is going ahead without the public's interest in its land, or the broader interest of the planet being taken into account. There is no vision here, other than economic; no full cumulative effects assessment on the horizon; no consideration of what may happen if the LNG market were to remain in collapse after all this infrastructure was built, and the associated companies were to pull out. Mining companies post cleanup bonds? What about applying the same obligation to pipeline companies?

The people of northwestern BC demand that our vision for a healthy future be safeguarded. We do not support a vast increase in greenhouse gas emissions at wells in northeastern BC, at North Coast LNG plants, and at end-user facilities in Asia, that will certainly result from your government's natural gas "strategy". We do not support multiple, linear paths of disruption through a globally recognized wilderness. We do not support the outright risk to wild salmon and other creatures and to watercourses. It cannot be that they dig up streams and reroute them in some instances. It is time to deal with the reality of climate change and how it will affect our children's future and our grandchildren's future. We live here; we are not going to go away. We demand that our voices to be heard; that government provide an intelligent, non-economically driven response. We demand political action to counter climate change!

First things first. Your government needs to consult meaningfully with the people of northwestern BC.

Thank You,

Stanita Messier <contact information removed>

